TEC

KEY Points

TECHNOLOGY *Foresight*

PROGRESS THROUGH PARTNERSHIP

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CONSTRUCTION

INFORMATION SERVICE
17 JUL 1995
Wellcome Centre for Medical Science

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Office of Science and Technology

THE SECTOR

The construction industry assembles materials and components designed and delivered by a multitude of suppliers from a diversity of disciplines and technologies. New construction accounts for half of fixed capital formation in the UK. The sector employs 1.7 million people and output in 1993 was £46 billions; output as a proportion of the UK's GDP (about 8 percent) is less than our continental competitors or Japan. There is a deficit of almost £2 billions in materials imports and, while input costs are relatively low, output costs are relatively high. In contrast, the UK maintains a healthy share of international contracting activity - some 12-13 percent of the global market. Investment in R&D is amongst the lowest in Europe.

THE FUTURE

The construction panel foresees huge new overseas markets opening up, particularly in Asia and the Pacific Rim countries. Market trends suggest a move away from 'bespoke' production towards customised solutions from standardised components. Intense global competition will keep up the pressure to obtain competitiveness on costs and prices. These developments will underline the need for project management skills of a high order, and the benefits that can arise from improved intelligence about export markets.

PRIORITY RECOMMENDATIONS

The Panel recommends four engines of change and five opportunities which will contribute to a future of lower costs, greater profitability and responsibility.

Engines of change

- More appropriate education and training to meet the needs of a modern construction industry and " learning networks" to foster greater collaboration across industry and supplier boundaries;
- Mechanisms to ensure all parties are kept well informed and coordinated via information and communications technology;
- A fiscal policy that encourages and fosters long term investment and economic growth;
- An innovative culture facilitated by government, schools, industry and institutions.

Opportunities

- Customised solutions from standard components;
- Business processes in construction (working together efficiently);
- Constructing for life - buildings that are constructed to last only as long as required;
- Better assessments of environmental and social consequences of development;
- A competitive infrastructure.

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PRACTICAL STEPS TO IMPLEMENT RECOMMENDATIONS

The Panel's report contains detailed recommendations and suggestions on how they might be implemented. Successful implementation will involve government departments, research councils, institutions, trade associations and industry.

Recommendations of the Construction Panel will be passed to the new Whole Industry Research Strategy (WIRS) panel which reports to the Construction Industry Board, tasked with taking forward the Recommendations of the Latham Review ("Constructing the Team"). The WIRS panel will oversee all construction research activities, and it is therefore ideally placed to monitor implementation of the Foresight recommendations.

MAJOR TASKS AND IMPLEMENTING ORGANISATIONS

The following table summarises the main tasks and the organisations needed to implement them.

TASK	LEAD ORGANISATIONS
Education / Learning Networks	
Establishment of a forum charged with the development of education policies and curricula designed to produce world class constructors.	Education Departments
Promotion of learning networks	EPSRC, DoE
Reaping the benefits of the information revolution	
Promotion of information and communications technologies for the construction industries.	EPSRC, ESRC DoE, DTI
Establishment of a virtual reality centre for construction and development of a managed programme	EPSRC
Fiscal changes	
Research into relationships between changes in fiscal policy and effects on construction investment	EPSRC, ESRC DoE, DTI
Innovation culture	
Promotion of innovation, for example by appointing innovation directors and Professors of Innovation in construction	Industry EPSRC, Universities
Fiscal policy/legislation to encourage innovation	Central Government
Customised solutions from standard components	
A managed programme aimed at developing a world leading competence in design, application and supply of customised solutions from standard components of lightweight materials.	Industry DoE, EPSRC
Business processes in construction	
Multidisciplinary research into development and application of improved processes in construction	EPSRC ESRC
Constructing for life	
Research to establish relationships between performance, expected life and costs of materials and components	DoE EPSRC LINK
Environmental and social consequences of development	
New managed programme on holistic approach to social and environmental benefit analysis	EPSRC, ESRC NERC,DoE
Competitive infrastructure	
Study Group to identify UK strengths in the engineering and research base	EPSRC
Competitive infrastructure working group on research required for improvements in UK and export markets	Construction Industry Board, DoE, EPSRC

TECHNOLOGY FORESIGHT PROGRAMME

The purpose of the Technology Foresight Programme is to help business people, engineers and scientists become better informed about each other's efforts. It is bringing these communities together in networks - looking forward in partnership - which will help to identify emerging opportunities in markets and technologies. The Programme will also help to ensure that resources are used to best effect in support of wealth creation and improving the quality of life. The results of Foresight will inform decisions on spending by Government and industry. Foresight findings are available to small and medium sized enterprises which may not have the resources to undertake Foresight work on their own account.

The Technology Foresight Programme is co-ordinated by the Office of Science and Technology (part of the Cabinet Office). Foresight panels have been working in each of the following 15 sectors:

Agriculture, Natural Resources & Environment
Chemicals
Communications
Construction
Defence & Aerospace
Energy
Financial Services
Food & Drink
Health & Life Sciences
IT/Electronics
Leisure & Learning
Manufacturing, Production & Business Processes
Materials
Retail & Distribution
Transport

Summary leaflets (like this one) are available for each sector. Copies of these documents are available from the Office of Science and Technology, Albany House, 84-86 Petty France, London, SW1H 9ST (Fax: 0171-271-2015). Full reports for each sector are available from Her Majesty's Stationery Office.